

REMARKS

Claims 1-12 are currently active.

The Examiner has objected to the claim of priority by the applicant. It is respectfully submitted that in the transmittal letter when the above-identified patent application was filed with the United States Patent and Trademark Office, the specification was amended to claim priority from the provisional application. A copy of the page of this letter is attached. However, applicant has again amended the specification before the first line with a line which states, "This application claims the benefit of U.S. provisional application number 60/166,932 filed on November 22, 1999".

The Examiner has objected to the drawings as informal. Applicants will provide formal drawings when the application is allowed.

The Examiner has rejected Claims 1 and 12 as being anticipated by Ye and Lewis. Applicant respectfully traverses this rejection in view the amendments to the claims. Claims 1 and 12 now have the limitation with the geometric space is R^3 . Antecedent support for the amendments to Claims 1 and 12 is found on page 13, line 15. Ye and Lewis does not teach or suggest this limitation. Ye and Lewis teach that a system based on the prior art Perlin

noise function which the claimed invention improves upon is not based on a point in R^3 space.

Accordingly, Claims 1 and 12 are patentable over Ye and Lewis.

The Examiner has rejected Claims 2-11 as being unpatentable over Ye and Lewis. Claims 2-11 are dependent to parent Claim 1 and are patentable for the reasons Claim 1 is patentable.

The Examiner has objected to the specification and the claims. The specification and the claims have been amended pursuant to the Examiner's comments to obviate these objections.

In view of the foregoing amendments and remarks, it is respectfully requested that the outstanding rejections and objections to this application be reconsidered and withdrawn, and Claims 1-12, now in this application be allowed.

CERTIFICATE OF MAILING

I hereby certify that the correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on 6/30/13

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Respectfully submitted,

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Version with markings to show changes made to the claims

1. A method for creating an appearance of texture in a computer image comprising the steps of:

inputting a point $\{x_d\}$ in D-dimensional geometric space $[RD] \mathbb{R}^3$ described via D M bit quantities i_d and D N bit quantities u_d , where i_d are M bit representations of greatest integers not $> x_d$ and u_d are N bit representations of remainders $(x_d - i_d)$, where M and N are integers ≥ 4 and D=3, in a computer;

computing a pseudo-random hash value at each vertex of a unit cube C surrounding the point;

computing a contribution from each vertex using the hash-value; and

combining with the computer the contribution from each vertex into a single interpolated result.

6. A method as described in Claim 5 wherein the computing the contribution step includes the steps of subtracting 28 from each u, v, w, computing a gradient direction

from each hash value h_n , performing [and a] an inner product between the gradient direction and the associated fractional position from the associated vertex.

11. A method as described in Claim 10 wherein the using step includes the step of using the seven linear interpolations modules I, arranged into three successive stages, wherein a first stage of the three stages eight values are reduced to four [various] values, interpolating in x; the second stage of the four values are reduced to two, interpolating in y; and the third stage, the two values are reduced to one, interpolating in z.

12. An apparatus for creating an appearance of texture in a computer image comprising:

a computer;

a mechanism for inputting a point $\{x_d\}$ in D-dimensional geometric space $[RD]$ R^3 described via D M bit quantities i_d and D N bit quantities u_d , where i_d are M bit representations of greatest integers not $> x_d$ and u_d are N bit representations of remainders $(x_d - i_d)$, where M and N are integers ≥ 4 and D=3, in the computer;

a mechanism for computing a pseudo-random hash value at each vertex of a unit cube C surrounding the point;

a mechanism for computing a contribution from each vertex using the hash-value; and

a mechanism for combining with the computer the contribution from each vertex into a single interpolated result.